AMENDMENT TO THE CLAIMS

1. (Currently Amended) A method of moving small samples of liquid through a microscale conduit system, said method comprising ~~the steps of~~carrying out the following steps in the order given:

a) ~~providing an aliquot of a first liquid sample, said first liquid sample comprising a first solvent;~~

~~b)~~ providing a microscale conduit system, said conduit system having an interior wall surface;

b) providing a first liquid sample to be transported through said system, said first liquid sample comprising a first solvent;

c) ~~transferring into said conduit system~~providing a carrier liquid that is immiscible with said first solvent of said first liquid sample, wherein said interior wall surface of said conduit system, said carrier liquid and said first solvent are selected so that said interior wall surface is wettable by said carrier liquid preferentially to said first solvent and wherein said interior wall surface of at least a first section of said system is provided by a preferentially wettable covalent coating over a conduit system material that inherently, without said preferentially wettable covalent coating, is not preferentially wettable by said carrier liquid~~said carrier liquid has a contact angle with the interior wall surface of said conduit system more closely approaching zero than the contact angle that said first liquid sample has with said conduit wall surface~~;

d) transferring a portion of said carrier liquid into said conduit system;

~~d~~e) causing said carrier liquid to move in said conduit system~~,~~

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~~c)~~ by ~~-~~transferring ~~said~~ an aliquot of said first sample into said conduit system;

f) causing said aliquot of said first liquid sample to move in said conduit system by

~~f) subsequently,~~ transferring into said conduit system a second ~~aliquot~~ portion of said carrier liquid; and

g) causing said first liquid sample and said carrier liquid~~liquids~~ to continue to move in said conduit system~~;~~

~~wherein at least a section of said conduit system comprises an interior wall surface that is inherently incapable of satisfying the conditions of step c) (an unfavorable surface) and that has applied to it a covalent coating to render said interior wall surface of said section capable of satisfying the conditions of step c) (a favorable surface)~~.

2. (Currently Amended) The method of claim 1, wherein, further, the interior wall surface of at least a second section of said conduit system is provided by a material that, inherently, without a coating, is preferentially wettable by said carrier liquid~~comprises an interior wall surface that is inherently capable of satisfying the conditions of step c) (a favorable surface)~~.

3. (Currently Amended) The method of claim 1, wherein said microscale conduit system comprises a conduit portion through a microfluidic device.

4. (Currently Amended) The method of claim 3, further comprising the step of carrying out ~~a~~ an analysis or processing step appropriate to said microfluidic device on said first sample

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when said aliquot of said first sample has been moved into a position in said device appropriate for said analysis or processing step.

5. (Original) The method of claim 1, wherein said carrier liquid is a perfluorocarbon.

6. (Currently Amended) The method of claim 1, wherein said interior wall surface of said first section of said conduit system ~~comprising an interior wall surface that is inherently incapable of satisfying the conditions of step c) (an unfavorable surface)~~ is made of glass or fused silica, wherein said ~~applied~~ covalent coating applied to said interior wall surface of said first section is a fluoroalkyl silane and wherein said carrier liquid is a fluorocarbon.

7. (Original) The method of claim 6, wherein said fluoroalkyl silane is tridecafluoro-1,1,2,2-tetrahydrooctyl-1-trichlorosilane (perfluorooctylsilane, PFOS).

8. (Currently Amended) The method of claim 1, wherein said ~~applied~~ covalent coating applied to said interior wall surface of said first section is an alkyl silane.

9. (Currently Amended) The method of claim 1, wherein said carrier liquid is a fluorocarbon and wherein said covalent coating ~~covalently~~ applied to said interior wall surface of said ~~conduit system in said~~first section ~~having said unfavorable surface~~ is fluorine-rich.

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10. (Currently Amended) The method of claim 2, wherein said interior wall surface of said second section of said conduit system ~~comprising an interior wall surface that is inherently capable of satisfying the conditions of step c) (a favorable surface)~~ comprises polytetrafluoroethylene~~Teflon™ tubing~~ and wherein said carrier liquid is a fluorocarbon.

11. (Currently Amended) The method of claim 1, wherein said liquids are caused to move~~ment in said conduit system is~~ intermittently in said conduit system.

12. (Currently Amended) The method of claim 1, wherein said liquids are caused to move~~ment in said conduit system is~~ continuously in said conduit system.

13. (Original) The method of claim 4, wherein said processing step is carried out under stopped flow conditions.

14. (Original) The method of claim 3, wherein said microfluidic device is a probe for an NMR spectrometer and wherein said conduit portion through said device includes the observed volume of the detection cell for said NMR probe.

15. (Currently Amended) The method of claim 1, said method further comprising, following step (f) and before step (g), the steps of;

(f1) providing ~~an aliquot of another~~ a second liquid sample to be transported through said system, wherein said solvent of said ~~other~~ second liquid sample is also immiscible with said carrier liquid;

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(f2) transferring ~~said~~ an aliquot of said ~~other~~ second liquid sample into said conduit system; and

(f3) causing said aliquot of said second liquid sample to move in said conduit system by~~subsequently,~~ transferring into said conduit system ~~an aliquot~~another portion of said carrier liquid, wherein said steps f1-f3 may be repeated for ~~different~~ further said ~~other~~ samples.

16. (Currently Amended) The method of claim 15, wherein said ~~other~~ second liquid sample comprises the same solvent as said first liquid sample.

17. (Currently Amended) The method of claim 15, said method further comprising, prior to step f2, the steps of transferring ~~an aliquot~~a portion of a wash solvent compatible with said first solvent into said conduit system followed by transferring ~~an aliquot~~a portion of said carrier liquid into said conduit system.

18. (Currently Amended) The method of claim 4, said method further comprising, following step (f) and before step (g), the steps of;

(f1) providing ~~an aliquot of another~~ a second liquid sample to be transported through said system, wherein said solvent of said ~~other~~ second liquid sample is also immiscible with said carrier liquid;

(f2) transferring ~~said~~ an aliquot of said ~~other~~ second sample into said conduit system; and

(f3) causing said aliquot of said second liquid sample to move in said conduit system by~~subsequently,~~ transferring into said conduit system ~~an aliquot~~a portion of said carrier liquid; and

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following step (g), the step of:

(~~f4~~g1) carrying out said processing step on said ~~other~~ second sample when said aliquot of said ~~other~~ second sample has been moved into a position in said device appropriate for said processing step, wherein said steps f1~~-f4~~ f3 and step g1 may be repeated for ~~different~~ further said ~~other~~ samples.

19. (Currently Amended) The method of claim 17, wherein said ~~other~~ second liquid sample comprises the same solvent as said first liquid sample.

20. (Cancelled) A microfluidic device having a microscale conduit therethrough, said conduit having an interior wall surface, wherein at least a portion of said interior wall surface of said conduit is covalently coated with a fluorine-rich coating.

21. (Cancelled) The device of claim 20, wherein said device is made of silicon.

22. (Cancelled) The device of claim 20, wherein said device is made of fused silica.

23. (New) The method of claim 1, wherein said aliquot of said first sample is overlaid with carrier fluid prior to transfer into said conduit system.

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